SEQUENCE LISTING

<110> Wolf, Eckhard
Werner, Sabine
Halle, Jorn-Peter
Regenbogen, Johannes
Goppelt, Andreas

COPY OF PAPERS
ORIGINALLY FILED

AN 28-5)

<120> Polypeptides or Nucleic Acids Encoding These of a Family of G-Protein Coupled Receptors and their Use for the Diagnosis or Treatment of Disorders, for example Skin Disorders and their Use for the Identification of Pharmacologically Active Substances

<130> 50125/015002 <140> 09/920,068 <141> 2001-08-01 <150> 60/229,501 <151> 2000-08-31 <150> DE 10038111.1 <151> 2000-08-04 <160> 21

<170> FastSEQ for Windows Version 4.0

<210> 1 <211> 331 <212> PRT <213> Mus musculus

<400> 1 Met Gly Glu Ser Asn Gly Glu Ala Phe Leu Ala Phe Lys Thr Ser Ala 10 5 Ser Pro Thr Ala Pro Val Thr Thr Asn Pro Met Asp Glu Thr Leu Pro 25 20 Gly Ser Ile Asn Ile Arg Ile Leu Ile Pro Lys Leu Met Ile Ile Ile 40 45 Phe Gly Leu Val Gly Leu Met Gly Asn Ala Ile Val Phe Trp Leu Leu 55 60 Gly Phe His Leu Arg Arg Asn Ala Phe Ser Val Tyr Ile Leu Asn Leu 70 75 Ala Leu Ala Asp Phe Leu Phe Leu Leu Ser Ser Ile Ile Ala Ser Thr 85 90 Leu Phe Leu Leu Lys Val Ser Tyr Leu Ser Ile Ile Phe His Leu Cys 105 110 100 Phe Asn Thr Ile Met Met Val Val Tyr Ile Thr Gly Ile Ser Met Leu 120 125 115 Ser Ala Ile Ser Thr Glu Cys Cys Leu Ser Val Leu Cys Pro Thr Trp 140 135 130 Tyr Arg Cys His Arg Pro Val His Thr Ser Thr Val Met Cys Ala Val 150 155 Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu Asn Ser Tyr Phe Cys 165 170

Ala Val Leu His Thr Arg Tyr Asp Asn Asp Asn Glu Cys Leu Ala Thr 180 185 190 Asn Ile Phe Thr Ala Ser Tyr Met Ile Phe Leu Leu Val Val Leu Cys 200 195 Leu Ser Ser Leu Ala Leu Leu Ala Arg Leu Phe Cys Gly Ala Gly Gln 220 215 Met Lys Leu Thr Arg Phe His Val Thr Ile Leu Leu Thr Leu Leu Val 230 235 Phe Leu Cys Gly Leu Pro Phe Val Ile Tyr Cys Ile Leu Leu Phe 245 250 Lys Ile Lys Asp Asp Phe His Val Leu Asp Val Asn Leu Tyr Leu Ala 270 265 260 Leu Glu Val Leu Thr Ala Ile Asn Ser Cys Ala Asn Pro Ile Ile Tyr 285 280 Phe Phe Val Gly Ser Phe Arg His Gln Leu Lys His Gln Thr Leu Lys 300 295 Met Val Leu Gln Ser Ala Leu Gln Asp Thr Pro Glu Thr Ala Glu Asn 315 310 Met Val Glu Met Ser Ser Asn Lys Ala Glu Pro

<210> 2 <211> 321 <212> PRT <213> Homo sapiens

<400> 2 Met Asn Gln Thr Leu Asn Ser Ser Gly Thr Val Glu Ser Ala Leu Asn 10 Tyr Ser Arg Gly Ser Thr Val His Thr Ala Tyr Leu Val Leu Ser Ser Leu Ala Met Phe Thr Cys Leu Cys Gly Met Ala Gly Asn Ser Met Val 40 Ile Trp Leu Leu Gly Phe Arg Met His Arg Asn Pro Phe Cys Ile Tyr 55 Ile Leu Asn Leu Ala Ala Ala Asp Leu Leu Phe Leu Phe Ser Met Ala 75 70 Ser Thr Leu Ser Leu Glu Thr Gln Pro Leu Val Asn Thr Thr Asp Lys 95 85 90 Val His Glu Leu Met Lys Arg Leu Met Tyr Phe Ala Tyr Thr Val Gly 105 Leu Ser Leu Leu Thr Ala Ile Ser Thr Gln Arg Cys Leu Ser Val Leu 120 125 115 Phe Pro Ile Trp Phe Lys Cys His Arg Pro Arg His Leu Ser Ala Trp 135 140 Val Cys Gly Leu Leu Trp Thr Leu Cys Leu Leu Met Asn Gly Leu Thr 150 155 Ser Ser Phe Cys Ser Lys Phe Leu Lys Phe Asn Glu Asp Arg Cys Phe 170 175 165 Arg Val Asp Met Val Gln Ala Ala Leu Ile Met Gly Val Leu Thr Pro 185 180 Val Met Thr Leu Ser Ser Leu Thr Leu Phe Val Trp Val Arg Arg Ser 200 205 195 Ser Gln Gln Trp Arg Arg Gln Pro Thr Arg Leu Phe Val Val Leu 215 220 Ala Ser Val Leu Val Phe Leu Ile Cys Ser Leu Pro Leu Ser Ile Tyr 235 230

Trp Phe Val Leu Tyr Trp Leu Ser Leu Pro Pro Glu Met Gln Val Leu

Cys	Phe	Ser	Leu 260	245 Ser	Arg	Leu	Ser	Ser 265	250 Ser	Val	Ser	Ser	Ser 270	255 Ala	Asn
		275	_				280			Arg		285			
Thr	Arg 290	Ser	Leu	Gly	Thr			Gln		Ala	Leu 300	Arg	Glu	Glu	Pro
Glu 305 Ala	Leu	Glu	Gly	Gly	Glu 310	Thr	Pro	Thr	Val	Gly 315	Thr	Asn	Glu	Met	Gly 320

<210> 3 <211> 325 <212> PRT

<213> Mus musculus

<400> 3 Met Asp Ile Asp Ile Ser Ser Leu Gly Ile Tyr Ile Ile Ala Pro Asn Gly Ser Ser Tyr Thr Asn Ser Val Asp Cys Phe Phe Lys Ile Gln Val Met Gly Phe Leu Ser Leu Ile Ile Ser Pro Val Gly Met Val Leu Asn Ser Thr Val Leu Trp Phe Leu Gly Phe Gln Ile Arg Arg Asn Ala Phe Ser Val Tyr Ile Leu Asn Leu Ala Gly Ala Asp Phe Leu Phe Leu His Ser Gln Phe Leu Phe Tyr Leu Leu Ala Ile Phe Pro Ser Ile Pro Ile 8.5 Gln Ile Pro Leu Phe Phe Asp Met Leu Thr Lys Phe Ala Tyr Leu Ser Gly Leu Ser Ile Leu Ser Thr Ile Ser Ile Glu Arg Cys Leu Cys Val Met Trp Pro Ile Trp Tyr Arg Cys Gln Arg Pro Arg His Thr Ser Ser Val Thr Cys Ser Leu Leu Trp Ala Leu Ser Leu Leu Phe Ala Leu Leu Asp Gly Met Gly Cys Gly Leu Leu Phe Asn Ser Phe Asp Gln Ser Trp Cys Leu Lys Phe Asp Leu Ile Ile Cys Ala Trp Ser Ile Val Leu Phe Val Val Leu Cys Gly Ser Ser Leu Ile Leu Leu Val Arg Ile Phe Cys Gly Ser Gln Gln Ile Pro Val Thr Arg Leu Tyr Val Thr Ile Ala Leu Thr Val Leu Phe Phe Leu Ile Cys Cys Leu Pro Phe Gly Ile Ser Trp Ile Ile Gln Trp Ser Glu Thr Leu Ile Tyr Val Gly Phe Cys Asp Tyr Phe His Glu Glu Leu Phe Leu Ser Cys Ile Asn Ser Cys Ala Asn Pro Ile Ile Tyr Phe Leu Val Gly Phe Ile Arg Gln Arg Lys Phe Gln Gln Lys Ser Leu Lys Val Leu Leu Gln Arg Ala Met Glu Asp Thr Pro Glu Glu Glu Asn Glu Asp Met Gly Pro Ser Arg Asn Pro Glu Glu Phe Glu

Thr Val Cys Ser Asn 325

<210> 4

```
<211> 330
<212> PRT
<213> Homo sapiens
<400> 4
Met Asp Pro Thr Thr Pro Ala Trp Gly Thr Glu Ser Thr Thr Val Asn
                                   10
                5
Gly Asn Asp Gln Ala Leu Leu Leu Cys Gly Lys Glu Thr Leu Ile
                               25
            20
Pro Val Phe Leu Ile Leu Phe Ile Ala Leu Val Gly Leu Val Gly Asn
                            40
       35
Gly Phe Val Leu Trp Leu Leu Gly Phe Arg Met Arg Arg Asn Ala Phe
                       55
                                           60
Ser Val Tyr Val Leu Ser Leu Ala Gly Ala Asp Phe Leu Phe Leu Cys
                   70
                                       75
Phe Gln Ile Ile Asn Cys Leu Val Tyr Leu Ser Asn Phe Phe Cys Ser
                                   90
               85
Ile Ser Ile Asn Phe Pro Ser Phe Phe Thr Thr Val Met Thr Cys Ala
                               105
           100
Tyr Leu Ala Gly Leu Ser Met Leu Ser Thr Val Ser Thr Glu Arg Cys
                            120
       115
Leu Ser Val Leu Trp Pro Ile Trp Tyr Arg Cys Arg Arg Pro Arg His
                                           140
                       135
Leu Ser Ala Val Val Cys Val Leu Leu Trp Ala Leu Ser Leu Leu Leu
                                      155
                   150
Ser Ile Leu Glu Gly Lys Phe Cys Gly Phe Leu Phe Ser Asp Gly Asp
                                                    175
                                   170
               165
Ser Gly Trp Cys Gln Thr Phe Asp Phe Ile Thr Ala Ala Trp Leu Ile
           180
                               185
Phe Leu Phe Met Val Leu Cys Gly Ser Ser Leu Ala Leu Leu Val Arg
                           200
                                               205
       195
Ile Leu Cys Gly Ser Arg Gly Leu Pro Leu Thr Arg Leu Tyr Leu Thr
                       215
                                           220
Ile Leu Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Gly
                                       235
                   230
Ile Gln Trp Phe Leu Ile Leu Trp Ile Trp Lys Asp Ser Asp Val Leu
                                   250
                245
Phe Cys His Ile His Pro Val Ser Val Val Leu Ser Ser Leu Asn Ser
                               265
            260
Ser Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg Lys Gln
                            280
        275
Trp Arg Leu Gln Gln Pro Ile Leu Lys Leu Ala Leu Gln Arg Ala Leu
                       295
                                           300
    290
Gln Asp Ile Ala Glu Val Asp His Ser Glu Gly Cys Phe Arg Gln Gly
                                        315
                    310
305
Thr Pro Glu Met Ser Arg Ser Ser Leu Val
                325
```

<210> 5

<211> 993

<212> DNA

<213> Mus musculus

```
<400> 5
atgggggaaa gcaatggtga agcatttett geetttaaga eeteageete accaacagea 60
ccagtgacaa caaatccaat ggacgaaacc ctccctggaa gtatcaacat taggattctg 120
atcccaaaat tgatgatcat catcttcgga ctggtcggac tgatgggaaa cgccattgtg 180
ttctggctcc tgggcttcca cttgcgcagg aatgccttct cagtctacat cctaaacttg 240
geoetggetg aetteettt ceteeteagt agtateatag etteeaceet gtttettete 300
aaagttteet aceteageat catettteae ttgtgettta acaccattat gatggttgte 360
tacatcacag ggataagcat geteagtgee ateageactg agtgetgeet gtetgteetg 420
tgccccacct ggtatcgctg ccaccgtcca gtacatacat caactgtcat gtgtgctgtg 480
atctgggtcc tatccctgtt gatctgcatt ctgaatagct atttctgtgc tgtcttacat 540
accagatatg ataatgacaa tgagtgtctg gcaactaaca tctttaccgc ctcgtacatg 600
atatttttgc ttgtggtcct ctgtctgtcc agcctggctc tgctggccag gttgttctgt 660
ggcgctgggc agatgaagct taccagattt catgtgacca tcttgctgac ccttttggtt 720
tttctcctct gcgggttgcc ctttgtcatc tactgcatcc tgttattcaa gattaaggat 780
gatttccatg tattagatgt taatctttat ctagcattag aagtcctgac tgctattaac 840
agctgtgcca accccatcat ctacttcttc gtgggctctt tcagacatca gttgaagcac 900
cagaccetea aaatggttet eeagay etgeaggaca eteetgagae agetgaaaac 960
atggtagaga tgtcaagtaa caaagcagag cct
<210> 6
<211> 966
<212> DNA
<213> Homo sapiens
<400> 6
atgaaccaga ctttgaatag cagtgggacc gtggagtcag ccctaaacta ttccagaggg 60
ageacagtge acaeggeeta cetggtgetg agetecetgg ceatgtteae etgeetgtge 120
gggatggcag gcaacagcat ggtgatctgg ctgctgggct ttcgaatgca caggaacccc 180
ttctgcatct atatcctcaa cctggcggca gccgacctcc tcttcctctt cagcatggct 240
tecaegetea geetggaaae eeageeeetg gteaataeea etgaeaaggt eeaegagetg 300
atgaagagac tgatgtactt tgcctacaca gtgggcctga gcctgctgac ggccatcagc 360
acccageget gtetetetgt cetetteect atetggttea agtgteaceg geceaggeae 420
ctgtcagcct gggtgtgtgg cctgctgtgg acactctgtc tcctgatgaa cgggttgacc 480
tetteettet geageaagtt ettgaaatte aatgaagate ggtgetteag ggtggacatg 540
gtccaggccg ccctcatcat gggggtctta accccagtga tgactctgtc cagcctgacc 600
ctctttgtct gggtgcggag gagctcccag cagtggcggc ggcagcccac acggctgttc 660
gtggtggtcc tggcctctgt cctggtgttc ctcatctgtt ccctgcctct gagcatctac 720
tggtttgtgc tctactggtt gagcctgccg cccgagatgc aggtcctgtg cttcagcttg 780
tcacgcctct cctcgtccgt aagcagcagc gccaaccccg tcatctactt cctggtgggc 840
agccggagga gccacaggct gcccaccagg tccctgggga ctgtgctcca acaggcgctt 900
cgcgaggagc ccgagctgga aggtggggag acgcccaccg tgggcaccaa tgagatgggg 960
                                                                  966
gcttga
<210> 7
<211> 978
<212> DNA
<213> Mus musculus
<400> 7
atggatatag acatttcgag cctgggcatt tacatcatag caccgaatgg aagcagctac 60
actaatagtg ttgattgttt cttcaaaatc caagtcatgg gttttctttc cctcatcatt 120
tcccctgttg ggatggtatt aaattccaca gtgctgtggt ttctgggctt ccagatacgt 180
aggaatgeet tetetgteta cateeteaac etggeegggg etgaetttet etteetgeac 240
tctcagtttt tattttacct tcttgctatt tttccctcca ttcctatcca gatccctctc 300
tttttttgata tgttgacaaa atttgcatat ctttctgggc tgagcattct cagcaccatt 360
agcattgage getgeetgtg tgteatgtgg eccatetggt accgetgtea aagaccaaga 420
cacacatcat ctgtaacctg ttccttgctt tgggctttgt ccctgttgtt tgctcttctg 480
gatgggatgg gatgtggctt actgtttaat agttttgacc agtcttggtg tttgaaattt 540
gatttaatca tttgtgcgtg gtcaattgtt ttatttgtgg ttctctgtgg gtccagtctc 600
```

```
atcotacttg ttaggatott ctgtggctcc cagcagatoc ctgtgaccag gctgtatgtg 660
accattgcac tcacagtgtt attettecta atetgetgte tteeetttgg aateteetgg 720
atcatccaat ggagtgaaac tttgatatat gttggatttt gtgattattt tcacgaggaa 780
ctattcctat cctgtattaa cagctgtgcc aaccctatca tttacttcct tgttggtttt 840
atteqteage gaaagtteea acagaagtet etgaaggtge ttetteaaag agegatggag 900
gacactectg aagaagaaaa tgaagacatg ggteetteaa gaaatecaga agaatttgaa 960
acagtctgta gcaactga
<210> 8
<211> 1770
<212> DNA
<213> Homo sapiens
<400> 8
aatcagtgaa catgcagcag gtgctcaagt cttgtttttg tttccagggg caccagtgga 60
ggttttctga gcatggatcc aaccaccccg gcctggggaa cagaaagtac aacagtgaat 120
ggaaatgace aageeettet tetgetttgt ggeaaggaga eeetgateee ggtetteetg 180
atcettttca ttgccctggt cgggctggta ggaaacgggt ttgtgctctg gctcctgggc 240
ttccgcatgc gcaggaacgc cttctctgtc tacgtcctca gcctggccgg ggccgacttc 300
ctcttcctct gcttccagat tataaattgc ctggtgtacc tcagtaactt cttctgttcc 360
atotocatca atttocotag ottottoaco actgtgatga cotgtgocta cottgcaggo 420
ctgagcatgc tgagcaccgt cagcaccgag cgctgcctgt ccgtcctgtg gcccatctgg 480
tatcgctgcc gccgccccag acacctgtca gcggtcgtgt gtgtcctgct ctgggccctg 540
tecetactge tgageatett ggaagggaag ttetgtgget tettatttag tgatggtgae 600
tctggttggt gtcagacatt tgatttcatc actgcagcgt ggctgatttt tttattcatg 660
gttctctgtg ggtccagtct ggccctgctg gtcaggatcc tctgtggctc caggggtctg 720
ccactgacca ggctgtacct gaccatcctg ctcacagtgc tggtgttcct cctctgcggc 780
ctgccctttg gcattcagtg gttcctaata ttatggatct ggaaggattc tgatgtctta 840
ttttgtcata ttcatccagt ttcagttgtc ctgtcatctc ttaacagcag tgccaacccc 900
atcatttact tcttcgtggg ctcttttagg aagcagtggc ggctgcagca gccgatcctc 960
aagctggctc tccagagggc tctgcaggac attgctgagg tggatcacag tgaaggatgc 1020
ttccgtcagg gcaccccgga gatgtcgaga agcagtctgg tgtagagatg gacagcctct 1080
acttccatca gatatatgtg gctttgagag gcaactttgc ccctgtctgt ctgatttgct 1140
gaactttctc agtcctgatt ttaaaacagt taagagagtc cttgtgagga ttaagtgaga 1200
cagtgcctat gaaacaaaca ctaagtgcag tgtctctgga actgccttac tcacaggctt 1260
ccaccacage cetatgagag etttgccaae tetgeggtee atgactgtte ccaettttaa 1320
tgaatcctac ctttcgcaga aggctgaaag cagggcagaa aagatctaca tttctttgga 1380
cactgcactt gatagggact caaagaatgt tatattttta attaatttct ttttctcttc 1440
cgtacaattt ctgtctcaac aaaattagaa gaattaaatt taaaactagc tccaaaagag 1500
cagccgtctt tcattttggc agaccttaga atatccccct agcttaataa atctttgttg 1560
aatggcttaa tgaatgaata aactggttaa tgtttaagtt aaacctctga aaagtctcca 1620
tttaccagat ttgagtcact aaatttattg ctttcactac ttttgaattc acctctccgt 1680
tatqacccta aatcacaatc tccattctga ctgttgatgg actcctctca gtcattaagg 1740
                                                                  1770
gtggccatgg gtcatggcct gagtcatttc
<210> 9
<211> 24
<212> DNA
<213> Mus musculus
<400> 9
                                                                   24
gaggcatgtc aaatcagtaa gctg
<210> 10
<211> 20
<212> DNA
<213> Mus musculus
<400> 10
```

ggtggctttg gagtgagcac	20
<210> 11 <211> 19 <212> DNA <213> Mus musculus	
<400> 11 atcaacggga agcccatca	19
<210> 12 <211> 20 <212> DNA <213> Mus musculus	
<400> 12 gacatactca gcaccggcct	20
<210> 13 <211> 21 <212> DNA <213> Homo sapiens	
<400> 13 ttcttctgct ttgtggcaag g	21
<210> 14 <211> 21 <212> DNA <213> Homo sapiens	
<400> 14 gaaaaggatc aggaagaccg g	21
<210> 15 <211> 653 <212> DNA <213> Mus musculus	
<220> <221> misc_feature <222> 458, 482, 492, 523, 532, 534, 536, 540, 543, 547, 551, 552, 556, 560, 567, 576, 580, 584, 587, 592, 595, 602, 603, 613, 619, 629, 633, 641 <223> n = A,T,C or G	
<pre><400> 15 tattcaggag gggtagaaaa actaagttag tggagagatg ttgaagttgt tggtggacca ctgaggcatg tcaaatcagt aagctgagag aagagtggac agtggtcaag tgcagcaggg cagtgctcac tccaaagcca cctctgaggt ccaggtagag gctcttcatc aaggctctgc tttgttactt gacatctcta ccatgtttc agctgtctca ggagtgtcct gcaggtgact ctggagaacc attttgaggg tctggtgtt caactgatgt ctgaaagagc ccacgaagaa gtagatgatg gggttggcac agctgttaat agcagtcagg acttctaatg ctagataaag attaacatct aatacatgga aatcatcctt aatcttgaat aacaggatgc agtagatgac aaagggcacc cgcagaggag aaaaaccaaa agggtcanca agatgggcac atgaaatctg gnaagcttta tntgccccag cgcacaaaa acaacctggc canaaaaaac cngngntggn cangacnggg nnccenccen ccaaaanttt ttttntttn ctgnccnggg gnggnccttt tnnaaagccc atntttccna ccaccctng ggnggggcc ntttttttt ggg</pre>	120 180 240 300 360 420 480 540

<210> 16 <211> 22 <212> DNA <213> Homo	sapiens		
<400> 16 catgggtgtg	aaccatgaga a	ag 2	22
<210> 17 <211> 21 <212> DNA <213> Homo	sapiens		
<400> 17 ctaagcagtt	ggtggtgcag	g 2	21
<210> 18 <211> 25 <212> DNA <213> Homo	sapiens		
<400> 18 tcttaaccac	cagatcattc (cttct 2	25
<210> 19 <211> 20 <212> DNA <213> Homo	sapiens		
<400> 19 ggatactgcg	agcaaatggg	2	20
<210> 20 <211> 24 <212> DNA <213> Homo	sapiens		
<400> 20 ggagtcagco	ctaaactatt	ccag 2	24
<210> 21 <211> 20 <212> DNA <213> Homo	sapiens		
<400> 21 aggtaggccg	tgtgcactgt	2	20



BOX ((((S))()) | (1) | Assistant Commissioner for Patents Washington, DC 20231